

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

Solas OLED Ltd., an Irish corporation,

*Plaintiff,*

vs.

LG Display Co., Ltd., a Korean corporation;

LG Electronics, Inc., a Korean corporation; and

Sony Corporation, a Japanese corporation;

*Defendants.*

CASE NO. 6:19-cv-236

**Complaint for Patent  
Infringement  
(U.S. Patent No. 7,432,891)**

**JURY DEMANDED**

**Complaint for Patent Infringement**

Plaintiff Solas OLED Ltd. (“Solas”) files this complaint against Defendants LG Display Co., Ltd. (“LG Display”); LG Electronics, Inc. (“LG Electronics”); and Sony Corporation (“Sony”) (collectively “Defendants”), alleging infringement of U.S. Patent No. 7,432,891. The Accused Products are organic light-emitting diode (OLED) television displays and televisions incorporating such OLED displays.

**Plaintiff Solas and the asserted patent.**

1. Plaintiff Solas is a technology licensing company organized under the laws of Ireland, with its headquarters at 4-5 Burton Hall Road, Sandyford, Dublin 18.
2. Solas is the owner of U.S. Patent No. 7,432,891, entitled “Active matrix drive circuit,” which issued October 7, 2008 (the “’891 patent”). A copy of the ’891 patent is attached to this complaint as Exhibit 1.

### **Defendants and the Accused Products.**

3. Defendant LG Display Co., Ltd. (“LG Display”) is a Korean corporation. Defendant LG Electronics, Inc. (“LG Electronics”) is a Korean corporation. Defendant Sony Corporation (“Sony”) is a Japanese Corporation.

4. The Accused Products are organic light-emitting diode (OLED) television displays and televisions incorporating such OLED displays.

5. LG Display designs, produces, and sells the accused OLED television displays. Defendant LG Electronics designs, produces, and sells accused televisions incorporating LG OLED displays. Defendant Sony designs, produces, and sells accused televisions incorporating LG OLED displays (including the Bravia line of OLED televisions).



### **Jurisdiction, venue, and joinder.**

6. Solas asserts claims for patent infringement against Defendants under the patent laws of the United States, including 35 U.S.C. §§ 271 and 281, *et seq.* The Court has original jurisdiction over Solas’ patent infringement claims under 28 U.S.C. §§ 1331 and 1338(a).

7. The Court has personal jurisdiction over Defendants. Each Defendant has established minimum contacts with the United States as a whole such that the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice. Defendants have purposefully directed activities at the United States—in particular, directing accused OLED

televisions for sale to distributors and end customers within the United States (including within this District) and engaging in sales and marketing efforts to generate and support such sales. The claims for infringement arise out of, or relate to, those activities.

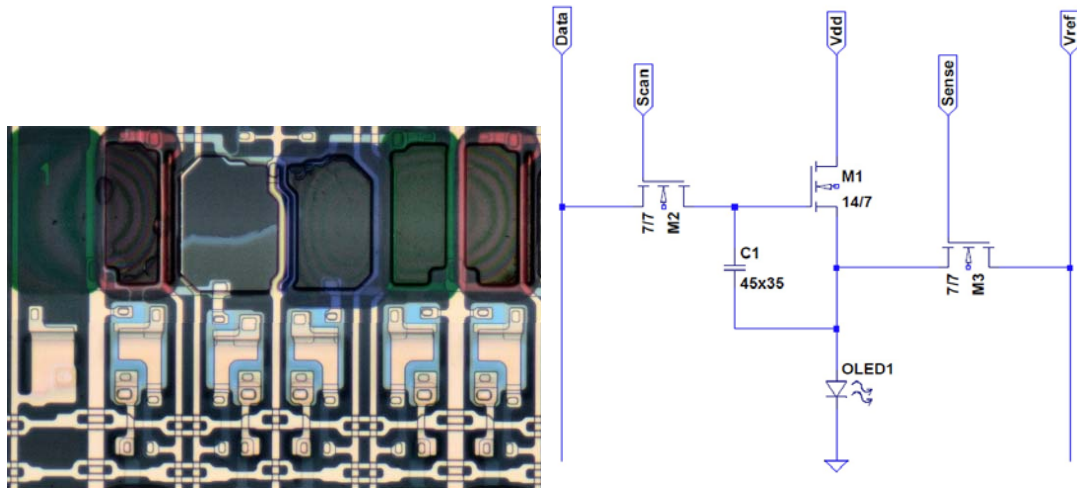
8. Defendants are jointly and severally liable for infringing the asserted patent. Defendants' liability arises out of the same transaction, occurrence, or series of transactions or occurrences. LG Display designs, produces, and sells accused OLED television displays which are incorporated into accused OLED televisions designed, produced, and sold by Defendants LG Electronics and Sony. As a result, this action involves questions of law and fact that are common to all Defendants (e.g., infringement by the accused OLED displays and accused OLED televisions incorporating those displays).

9. Venue is proper in this District. Venue is proper as to a foreign defendant in any district. 28 U.S.C. § 1391(c)(3); *In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018). All Defendants are foreign corporations.

**The accused features and functionality.**

10. The accused features relate to the driving circuitry for pixels of the accused OLED displays—in particular, the compensation functionality and associated circuitry for measuring and compensating for changes in driving transistor characteristics (e.g., changes in transistor electron mobility).

11. The following image and circuit diagram illustrate the pixel layout and pixel-driving circuitry for an example accused OLED display.



12. The driving current for light-emitting diode (OLED1) flows through Vdd and driving transistor M1. The accused functionality and circuitry relate to measuring the OLED driving current via the Vref line and supplying a voltage to the Data line to compensate for differences in driving transistor characteristics (e.g., manufacturing-related differences in the electron mobility of driving transistor M1). One important benefit of this infringing functionality is providing consistent display luminance.

### **Claim for patent infringement.**

13. Solas incorporates by reference each of the allegations in paragraphs 1-12 above and further alleges as follows:

14. On October 7, 2008, the United States Patent and Trademark Office issued U.S. Patent No. 7,432,891, entitled “Active matrix drive circuit.” Ex. 1.

15. Solas is the owner of the '891 patent with full rights to pursue recovery of royalties and other remedies for infringement, including full rights to recover past and future damages.

16. Each claim of the '891 patent is valid, enforceable, and patent-eligible.

17. Within the United States, each Defendant has offered for sale, sold, and used accused products that infringe the '891 patent (i.e., that meet each element of at least one claim, both literally and equivalently) and continues to do so. Each Defendant has additionally imported such infringing products into the United States and continues to do so.

18. The '891 patent claims priority to German patent DE10254511A ("Active matrix drive circuit") (issued as DE10254511B4) ("DE '511") under 35 U.S.C. Section 119(a) (allowing a claim of US priority, under certain conditions, for "an application for a patent for the same invention in a foreign country"). The DE '511 family is well known in the international display industry and has been cited in at least 50 patents or applications.

19. Defendant LG Display has known of the '891 patent, or has been willfully blind to the '891 patent, since at least 2005. LG Display or its predecessors have cited to DE '511 (including the application and the patent) or foreign counterparts in the following LG Display patents:

- KR100768047B1 (filed 11/30/2005 by LG.Philips LCD Co., Ltd., predecessor to LG Display) ("OLED display apparatus and drive method thereof") (citing DE10254511B4);
- KR101200884B1 (filed 6/14/2006 by LG Display Co., Ltd.) ("Light emitting diode and light emitting display device and method for driving the same") (citing KR100580956B1, Korean counterpart to DE10254511). In fact, the only patent cited on the face of the identified LG Display patent is the Korean counterpart to DE '511;

- KR101390316B1 (filed 10/30/2007 by LG Display Co., Ltd.) (“AMOLED and driving method thereof”) (citing KR20040045352A, Korean counterpart to DE10254511);
- KR101597037B1 (filed 6/26/2014 by LG Display Co., Ltd.) (“Organic light emitting display for compensating electrical characteristics deviation of driving element”) (citing DE10254511B4).

20. LG Display has known how the Accused Products operate and has known, or has been willfully blind to the fact, that using, offering to sell, and selling the Accused Products within the United States, or importing the Accused Products into the United States, would constitute infringement.

21. Defendant LG Electronics has known of the '891 patent, or has been willfully blind to the '891 patent, since at least 2005. LG Electronics has learned of the '891 patent through its investment in, and work with, related company LG Display.

22. LG Electronics has further known how the Accused Products operate and has known, or has been willfully blind to the fact, that using, offering to sell, and selling the Accused Products within the United States, or importing the Accused Products into the United States, would constitute infringement.

23. Defendant Sony Corporation has known of the '891 patent, or has been willfully blind to the '891 patent, since at least 2009. Sony cited to DE '511 on the face of the following patent: JP5278119B2 (filed 4/2/2009 by Sony Corporation) (“Method of driving a display device”) (citing DE10254511A).

24. Sony has further known how the Accused Products operate and has known, or has been willfully blind to the fact, that using, offering to sell, and selling the Accused Products

within the United States, or importing the Accused Products into the United States, would constitute infringement.

25. Defendants have induced, and continue to induce, infringement of the '891 patent by actively encouraging others (including distributors and end customers) to use, offer to sell, or sell the Accused Products within the United States or to import the Accused Products into the United States. On information and belief, these acts include: providing information and instructions on the use of the Accused Products; providing information, education and instructions supporting sales by United States distributors; providing the Accused Products to United States distributors; indemnifying patent infringement within the United States; and sending representatives to the United States to demonstrate, market and sell the Accused Products.

26. Defendants have contributed to infringement of the claims of the '891 patent and continue to do so by supplying, or causing to be supplied, material parts of the invention within the United States—in particular, the circuitry designed specifically for performing the compensation functionality described in ¶¶10-12, including circuitry for measuring the driving current, conducting a voltage comparison, and providing a compensating voltage signal. These components have no substantial non-infringing uses (i.e., substantial uses other than the accused compensation functionality) and are known by Defendants to be especially adapted for use in infringing the '891 patent by implementing the claimed compensation functionality.

27. Defendants' infringement of the '891 patent has been, and continues to be, willful and egregious.

28. Solas has been damaged by Defendants' infringement and is entitled to reasonable royalty damages and enhanced damages due to Defendants' willful infringement.

**Jury demand.**

29. Solas demands trial by jury of all issues.

**Relief requested.**

Solas prays for the following relief:

A. A judgment in favor of Solas that Defendants have infringed the '891 patent and that the patent is valid, enforceable, and patent-eligible;

B. A judgment and order requiring Defendants to pay Solas compensatory damages, costs, expenses, and pre- and post-judgment interest for its infringement of the asserted patents, as provided under 35 U.S.C. § 284;

C. A judgment that Defendants have willfully infringed the '891 patent and that Solas is entitled to enhanced damages as a result of such willful infringement;

D. A permanent injunction prohibiting Defendants from further acts of infringement of the '891 patent;

E. A judgment and order requiring Defendants to provide an accounting and to pay supplemental damages to Solas, including, without limitation, pre-judgment and post-judgment interest;

F. A finding that this case is exceptional under 35 U.S.C. § 285, at minimum due to Defendants' willful infringement, and an award of Solas' reasonable attorney's fees and costs; and

G. Any and all other relief to which Solas may be entitled.

Dated: April 1, 2019

Respectfully submitted,

/s/ Sean A. Luner w/permission by Andrea Fair  
Sean A. Luner



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